In the claims:

1. **(Original)** A system, comprising:

a photoreceptor circuit;

an optical system, including an element that changes a position of image information relative to said photoreceptor circuit; and

a processing circuit, operating to produce pulsed outputs at timings that are dependent on changes of said image information.

2. **(Original)** A system as in claim 1, wherein said photoreceptor circuit is formed on a semiconductor substrate, and said processing circuit is formed on the same semiconductor substrate as said photoreceptor circuit.

3. **(Original)** A system as in claim 1, wherein said processing circuit includes a circuit that changes spatial variations in light intensity into temporal fluctuations formed by digital pulses.

4. **(Original)** A system as in claim 3,wherein said processing circuit encodes changes in said output signal which are either in positive directions or negative directions into said digital pulses.

5. **(Original)** A system as in claim 4, wherein said photoreceptor circuit includes a photoreceptor element, and a logarithmic amplifier associated with said photoreceptor element.

6. **(Currently Amended)** A system as in claim 4, wherein said processing **circuit** ~~**circiut**~~ includes a differentiation element, and a half wave rectification element which converts both positive and negative signals into a common level.

7. **(Withdrawn)** A system as in claim 1, wherein said mechanical scanning device includes a moving reflective device.

8. **(Withdrawn)** A system as in claim 7, wherein said moving reflective device includes a moving mirror.

9. **(Withdrawn)** A system as in claim 1, further comprising a movement detecting device, which detects a position of movement of said photoreceptor.

10. **(Withdrawn)** A system as in claim 1, wherein said mechanical scanning device includes a moving reflective device, and a movement detecting device which detects a position of said moving reflective device.

11. **(Withdrawn)** A system as in claim 1, wherein the mechanical scanning device includes a moving optical element.

12. **(Withdrawn)** A system as in claim 11, wherein said moving optical element includes a moving lens.

13. **(Withdrawn)** A system as in claim 12, wherein said moving lens is moved by external vibration, and forms a resonant system that moves at a speed proportional to resonance in the system.

14. **(Withdrawn & Currently Amended)** A system as in claim 1, wherein there **is** ~~are~~ an array of said photoreceptor circuits.

15. **(Original)** A method, comprising:

acquiring image information using a first element;

using a second element to move a position of image information that is acquired by said first element;

processing said image information acquired by said first element, to obtain temporal information about said image information.

16. **(Original)** A method as in claim 15, wherein said temporal information includes pulses.

17. **(Original)** A method as in claim 16, further comprising using said pulses, and timing of said pulses, to determine information about said image.

18. **(Currently Amended)** A system, comprising:

a photoreceptor circuit, formed on a semiconductor substrate, and including a plurality of photoreceptor elements, and a plurality of amplifiers, with an amplifier associated with each of said photoreceptor elements;

an optical position moving element, operating to change a position where an incoming image scene contacts said photoreceptor circuit; and

a processing circuit, formed on said semiconductor substrate, and having a processing part associated with each said photoreceptor element, said processing circuit producing an output indicative of **temporal fluctuations of** information received by said photoreceptor element **resulting from spatial**

features in said incoming scene moving over said photoreceptor circuit.

19. **(Canceled)**

20. **(Original)** A system as in claim 18, wherein said optical position moving element operates to move the position of said image scene relative to said photoreceptor circuit cyclically.

21. **(Original)** A system as in claim 18, wherein said optical moving position element operates to move the position of said image scene relative to said photoreceptor circuit randomly.

22. **(Original)** A system as in claim 19, wherein said amplifiers that are associated with each of said photoreceptor elements produce a logarithmically scaled output.

23. **(Original)** A system as in claim 19, wherein said processing circuit half wave rectifies information indicative of the image scene, and obtains a derivative of the half wave rectified signal.

24. **(Original)** A method as in claim 17, further comprising using information about phase locking of said pulses to determine information about a spatial pattern in the image.

25. **(Original)** A method as in claim 17, further comprising obtaining a histogram indicating a number of spikes occurring as a function of position of a given integration time,

and using said histogram to determine information about said image.

26. **(Original)** A system as in claim 18, further comprising a sensor, determining a position of said optical position moving element, and wherein said processing circuit operates using information from said sensor.

27. **(Withdrawn)** A system as in claim 18, wherein said optical position moving element comprises a moving reflective device.

28. **(Withdrawn)** A system as in claim 27, wherein said moving reflective device includes a moving mirror.

29. **(Withdrawn)** A system as in claim 28, wherein said moving mirror is rotated around a tilted axis.

30. **(Withdrawn)** A system as in claim 27, further comprising a sensor element, operating to determine a position of the mirror, and wherein said processing circuit operates based on information from said sensing element.

31. **(Withdrawn)** A system as in claim 27, wherein said moving reflective device includes a prism.

32. **(Withdrawn)** A system as in claim 18, wherein said optical position moving element comprises an optical passing element, and at least one moving holder for said optical passing element.

33. **(Withdrawn)** A system as in claim 32, wherein said optical passing element includes a lens.

34. **(Withdrawn)** A system as in claim 33, wherein said moving holder includes at least one spring.

35. **(Withdrawn)** A system as in claim 34, wherein the lens and spring form a resonant system, which vibrates mostly at a specified resonant rate.

36. **(Withdrawn)** A system as in claim 34, wherein the springs and lens are mounted such that the lens remains at a substantially fixed distance from the photoreceptor circuit.

37. **(Withdrawn)** A system as in claim 32, further comprising a measurement element, measuring a parameter relating to a distance between said optical passing element and said moving holder, to produce a signal indicative of position therebetween, and wherein said processing circuit uses said signal.

38. **(Withdrawn)** A system as in claim 37, wherein said measurement element measures capacitance between said optical passing element and said at least one moving holder.

39. **(Currently Amended)** A method, comprising:

moving some aspect of electromagnetic energy relative to an array of photoreceptors; and

sensing the information about said electromagnetic energy that is independent of any fixed pattern noise in said array of photoreceptors **by generating and processing temporal pulses from**

each photoreceptor caused by the movement to extract spatial features in said electromagnetic energy.

Please add the following new claims, Claims 40-51:

40. **(New)** A system, comprising:

an image sensor having an array of sensing pixels, each sensing pixel comprising a photoreceptor responsive to light and a pixel processing circuit to receive and process output from said photoreceptor;

an optical device to direct input light from a scene to said image sensor; and

a device operable to move said image sensor and said optical device relative to each other to cause an image of the scene to move relative to said image sensor,

wherein each pixel processing circuit produces temporal pulses in response to a variation in light received by a respective sensing pixel caused by the image moving relative to said image sensor, and said temporal pulses have spatial information of the image with a spatial resolution pitch less than a spacing between two adjacent sensing pixels.

41. **(New)** The system as in claim 40, wherein each pixel processing circuit includes:

an amplifier to amplify a temporal variation in output from a corresponding photoreceptor, and

a pulse generation circuit that process output from said amplifier to produce said temporal pulses.

42. **(New)** The system as in claim 41, wherein said pulse generation circuit includes:

a first circuit that generates temporal pulses in response to a temporal increase in the output from said amplifier, and

a second circuit that generates temporal pulses in response to a temporal decrease in the output from said amplifier.

43. **(New)** The system as in claim 42, wherein said pulse generation circuit includes a threshold mechanism to generate a pulse when the output from said amplifier reaches a threshold value.

44. **(New)** The system as in claim 40, further comprising a feature map extractor circuit coupled to temporal pulses from said array of sensing pixels and operable to extract spatial features of the image from said temporal pulses.

45. **(New)** The system as in claim 44, wherein said feature map extractor circuit builds a histogram indicating a number of temporal pulses from each of said sensing pixels over a given integration time to form a spatial intensity gradient map of the image received by said image sensor.

46. **(New)** The system as in claim 44, wherein said feature map extractor circuit processes signals from said sensing pixels separately in extracting said spatial features of the image.

47. **(New)** The system as in claim 44, wherein said feature map extractor circuit includes:

a memory device having a lookup table having image pixel addresses derived from relative positioning information between the optical device and said image sensor;

an adder circuit to add a number of pulses from each and every sensing pixels; and

an image feature memory device having memory cells to receive and store the number of pulses from each every sensing pixels.

48. **(New)** The system as in claim 47, wherein said feature map extractor circuit further includes a FIFO buffer having an input side connected to said image sensor and said memory device have said lookup table and an output side connected to said adder circuit and said image feature memory device.

cntd 84

49. **(New)** A method, comprising:

causing an optical image to move relative to an image sensor having an array of sensing pixels;

using a pixel processing circuit in each sensing pixel to measure a variation in received light caused by the image moving relative to said image sensor to produce temporal pulses encoded with spatial feature information of the image with a spatial resolution pitch less than a spacing between two adjacent sensing pixels; and

processing temporal pulses from the sensing pixels to extract the encoded spatial feature information of the image.

50. **(New)** The method as in claim 49, wherein the processing includes correlating the relative motion between the optical image and the image sensor to the temporal pulses.

51. **(New)** The method as in claim 49, wherein temporal pulses from each sensing pixel are processed independently from other sensing pixels to mitigate fixed pattern noise.